

An Examination of Kindergarten Oral Language for African American Students: Are There Meaningful Differences in Comparison to Peers?

BRANDY GATLIN
JEANNE WANZEK

Florida State University, Tallahassee, Florida, USA

STEPHANIE AL OTAIBA

Southern Methodist University, Dallas, Texas, USA

Understanding differences in oral language abilities is vital, particularly for children from low-income homes and minority children who are at an increased risk for academic failure because of differences or deficits in language use or exposure before they enter school. The purpose of this study was to investigate oral language performance, including receptive and expressive vocabulary, grammar, and sentence imitation, among a diverse group of kindergarten students ($n = 503$). Using hierarchical linear modeling, we examined the contributions of student race (African American or non-African American), student socioeconomic status (SES), and school-wide SES to oral language performance. In separate analyses, we found significant absolute effects of both race and individual SES. However, when analyzed simultaneously, only race was a significant predictor for all measures. We also found that both identification as African American and school-wide SES were significant predictors of oral language performance. We discuss implications for practice and future research.

Jeanne Wanzek is now at Vanderbilt University in Nashville, TN.

Address correspondence to Brandy Gatlin, Department of Psychology Building, Florida State University, 1107 West Call Street, C234F, Tallahassee, FL 32304-3556, USA. E-mail: bgatlin@fcr.org

The United States is becoming an increasingly diverse society. According to the year 2010 U.S. Census Bureau, more than 25% of the population is composed of individuals of racial/ethnic groups other than White, an increase from 22.9% from the previous 2000 census (Humes, Jones, & Ramirez, 2011). This trend is expected to continue, with minorities predicted to make up more than 50% of the population by the year 2042 and more than half of all children by 2023. As population trends move toward the minority becoming the majority within the next generation, educators must be ready to prepare students from all backgrounds for success. Inarguably important for success is the acquisition of literacy skills. However, many individuals struggle with learning to read. For example, according to the most recent National Assessment of Educational Progress, also known as “the Nation’s Report Card” (National Center for Education Statistics, 2011), at both Grade Levels 4 and 8, only 34% of the nation’s schoolchildren demonstrated proficient reading skills, representing solid academic performance in this area.

Moreover, African American and Hispanic students continue to lag behind their White peers in reading proficiency. Although the gaps between the groups have decreased slightly over the past 19 years, there has been no significant change in the difference between the groups in the past few years (National Center for Education Statistics, 2011). In addition, minority students are more likely to live in poverty, which is also highly correlated with low reading performance (Federal Interagency Forum on Child and Family Statistics, 2013; Meece & Kurtz-Costes, 2001). Attention to literacy achievement for minority students is crucial to successfully address population trends and minimize achievement gaps in U.S. schools. The purpose of this study was to contribute to the discussion on achievement gaps in reading performance by examining relations among student racial background and socioeconomic status (SES) and early literacy development. In particular, this study focused on oral language ability, an empirically established predictor of reading comprehension (Catts, Fey, Zhang, & Tomblin, 1999; Scarborough, 1990), among a racially and socioeconomically diverse population of students.

ORAL LANGUAGE AND LITERACY ACHIEVEMENT

The role of oral language in literacy achievement has been studied extensively over the past few decades. Gough and Tunmer’s (1986; Hoover & Gough, 1990) simple view suggested that reading is the product of decoding and linguistic comprehension, with both factors of equal importance in reading comprehension. According to the model, in order to understand text, one must not only be able to accurately identify words in print but also have the ability to proficiently analyze the semantic and syntactic relationships among those words to reach an understanding of the text’s meaning. As the years progressed and as further research demonstrated, the nature of the

relationship between oral language and literacy development appeared to be more complex than previously assumed. Whitehurst and Lonigan (1998) proposed that emergent and conventional literacy are derived from one's ability to use information from two interdependent domains of information: *inside-out* sources (e.g., phonemic awareness, letter knowledge) and *outside-in* sources (e.g., vocabulary, conceptual knowledge). In a longitudinal study, Storch and Whitehurst (2002) found that the relationship between oral language and code-related skills is strong in the preschool years (i.e., oral language skills affect the development of code-related abilities) but weakens over time. Associations between oral language and reading achievement were not found to be significant in first and second grades in their study, but a significant relationship reemerged in Grades 3 and 4. Their findings suggested that oral language skills may play a more significant role in emergent literacy and in supporting later reading comprehension.

In separate assessments of factors contributing to reading outcomes, studies conducted by both the National Institute of Child Health and Human Development Early Child Care Research Network (2005) and the National Early Literacy Panel (2008) supported implications for an expansion and a reassessment of the role of oral language in early reading development. In fact, more recent studies have encompassed a broader definition of the term, incorporating various components of oral language, including vocabulary, syntax, semantic knowledge, listening comprehension, and narrative discourse, while also investigating their relationships to reading comprehension (see Dethorne, Petrill, Schatschneider, & Cutting, 2010; Dockrell, Lindsay, Connelly, & Mackie, 2007; Kendeou, van den Broek, White, & Lynch, 2009). Basing their study on the simple view of reading, Cutting and Scarborough (2006) investigated the relationship of word recognition, oral language skills (including receptive and expressive vocabulary and sentence processing), and other cognitive skills to various frequently used reading comprehension measures among a sample of first through tenth graders. The study found significant and unique contributions for each of the various components of oral language as predictors of reading achievement across the range of grade levels. The authors contended that future research should measure and analyze several facets of oral language proficiency.

Also framed by the simple view of reading, Catts, Adlof, and Weismer (2006) conducted two studies, concurrently and retrospectively, investigating the impact of oral language on literacy achievement. In the first study, on the basis of eighth-grade reading achievement, the researchers identified students as poor comprehenders, poor decoders, or typical readers. They investigated each subgroup's performance on language comprehension, which included receptive vocabulary, grammatical understanding, and discourse comprehension, and phonological processing skills. They found that students who were poor comprehenders had deficits in language comprehension but normal abilities in phonological processing. Students who were

poor decoders had normal language skills but were generally weak in phonological processing.

Next, using longitudinal data, Catts et al. (2006) analyzed the kindergarten, second-grade, and fourth-grade language comprehension performance of the three groups. Overall, students who were poor comprehenders in eighth grade had early deficits in language, particularly in receptive vocabulary and grammatical understanding. However, because the deficits were not always clinically apparent, many of the students did not receive specific intervention targeted at improving oral language ability. This study supported implications for a classification system for early struggling readers based on the simple view of reading. This system would categorize readers according to their strengths and weaknesses in word recognition and language comprehension as opposed to classic systems of placing poor readers into the same category based on general reading comprehension. Early identification of students with specific oral language difficulties may be an important component of early identification for intervention. Recent work has indicated positive effects on reading achievement when oral language interventions that go beyond vocabulary development are implemented (O'Connor, Bocian, Beebe-Frankenberger, & Linklater, 2010).

Although more recent studies have examined the relationship between a more broad definition of oral language and literacy outcomes, there is still a limitation of the existing research based on the National Early Literacy Panel's (2008) meta-analysis that needs to be addressed. The panel noted that many theories suggest the likelihood that individual differences might be mediated by demographic characteristics. The meta-analysis attempted to evaluate whether variables such as race/ethnicity or SES influenced student achievement. However, they found that the original studies rarely provided sufficient data regarding demographics to allow for unambiguous conclusions. A meta-analysis on the impact of vocabulary instruction on passage comprehension conducted by Elleman, Lindo, Morphy, and Compton (2009) revealed similar findings. Because many of the included studies did not report factors such as race and SES, the investigators could not examine relationships between student achievement and student characteristics. If experts are to successfully address academic achievement gaps, further investigations of a broad range of oral language abilities specific to demographic groups are needed. In this study, we begin to address this need by examining the contributions of race and SES to various oral language outcomes.

AFRICAN AMERICANS AND ORAL LANGUAGE

Children from low-income homes usually begin school with oral language skills significantly below those of their more advantaged peers (Snow, Burns, & Griffin, 1998). In one of the most well-known studies on language

development, Hart and Risley (1995) estimated that by preschool entry, the cumulative language experience provided to children from families receiving welfare is more than 13 million fewer words than that of children from more advantaged homes. Minority students are more likely to live in poverty, and for African American students in particular, child poverty rates are approximately 3 times higher than those for non-Hispanic White children (Federal Interagency Forum on Child and Family Statistics, 2013). Oral language is an essential skill for learning to read successfully, meaning that children from disadvantaged backgrounds are more likely to begin school with a greater risk of poor literacy acquisition.

African Americans also make up the most substantial proportion of the country's growing racial minority population (Humes et al., 2011). In 2010, about 12.6% of the U.S. population was African American, representing roughly half of minority groups across the United States. In addition, a large proportion of the students who are failing to meet academic standards are African American (National Center for Education Statistics, 2011). According to the Nation's Report Card, on the 2011 National Assessment of Educational Progress, 51% of African American fourth graders did not reach basic reading levels, indicating that many African American students did not demonstrate *partial* mastery of fundamental knowledge and skills for reading. African American students experience higher rates of high school dropout and lower college enrollment and are disproportionately represented in special education programs (Donovan & Cross, 2002; Harry & Klingner, 2006; Simon, 2001; U.S. Department of Education, 2009).

Because oral language skills play such a significant role in literacy development, the search for factors contributing to what has been referred to as the "Black-White achievement gap" or "Black-White test score gap" (Ferguson, 2007; Jencks & Phillips, 1998) has included investigations into the spoken language used by many African American students, African American English (AAE). AAE is a rule-governed and linguistically rich variety of English that contributes to the cultural identity of African American individuals (Green, 2002). Adults and children from both higher income and low-income homes speak AAE (Craig & Washington, 2006; Horton-Ikard & Miller, 2004), and children's AAE is characterized by various systematic differences from Mainstream American English in morphosyntactic and phonological features (Craig & Washington, 2006).

The unique contribution of AAE to reading and oral language skills remains unclear. In a study conducted by Connor and Craig (2006), findings suggested that students' overall language skills were a better predictor of reading outcomes than the use of AAE. Other researchers have demonstrated that AAE-speaking students who are able to dialect-shift to Mainstream American English in various literacy contexts outperform "nonshifters" (Craig & Washington, 2006, p. 98) on measures of reading achievement (Charity, Scarborough, & Griffin, 2004; Craig & Washington, 2004; Craig, Zhang,

Hensel, & Quinn, 2009). Researchers have also found that students with better language skills are more likely to be able to dialect-shift in literacy tasks (Connor & Craig, 2006) and acquire these dialect-shifting abilities early in the school setting (Craig & Washington, 2006; Terry, Connor, Petscher, & Conlin, 2012). Although this study does not address AAE or dialect use specifically, the study contributes to the discussion by examining an array of oral language abilities of African American students in comparison to their non-African American peers.

Based on the fact that several African American students are at risk for academic difficulties partially because of their high rates of living in poverty, Craig and colleagues (2009) suggested that any examination of factors contributing to the Black-White achievement gap should also include SES. The researchers also noted that until recently, very little research has investigated the role that oral language factors may play in the achievement gap. Conducting an early examination of oral language skills particularly for African American students across a variety of measures while also investigating the contribution of SES may provide important information regarding risk factors and intervention targets in order to address the achievement gap. Although several studies have indicated that students who come from low-income homes are at risk for academic deficiencies (e.g., Hart & Risley, 1995; Sirin, 2005; White, 1982), researchers have more recently begun to investigate associations between individual factors and academic achievement while also accounting for environmental influences (e.g., Connor, Morrison, Fishman, Schatschneider, & Underwood, 2007; Petrill et al., 2010). Recent research has highlighted the importance of examining the impact of not only individual factors such as race and student SES but also environmental influences on individual performance, including racial diversity within the school, and neighborhood and school-wide SES (Caldas & Bankston, 1997; Taylor & Schatschneider, 2010; Terry, Connor, Thomas-Tate, & Love, 2010). In this study, we not only examine factors related to oral language performance at the individual level but also extend previous research by investigating the contributions of environmental characteristics as well.

THE PRESENT STUDY

The purpose of this study was to examine oral language ability, including receptive and expressive vocabulary, grammar, and sentence imitation, among African American and non-African American kindergarten students. In the present study, we extend the previous research in several ways. First, we focused on a range of measures of oral language that have been previously established as predictors of literacy performance. We measured not only receptive and expressive vocabulary but also grammar and sentence imitation among a sample of kindergarten students. These students were

assessed in early fall of the school year; thus, the data provide a general gauge of each student's oral language ability at kindergarten entry. Second, we investigated the contribution of student identification as African American or non-African American to oral language outcomes. Finally, we examined these relationships with regard to SES at both the individual level and the school-wide level. Specifically, the following research questions guided the study:

1. What is the relationship between student racial background (specifically African American and non-African American), student SES, and early oral language skills?
2. What is the relationship between student race and SES, school-level race and SES, and early oral language skills?

METHOD

Participants

To answer our research questions, we analyzed data from a racially and economically diverse sample of kindergarten students from 11 schools in a mid-size southern city who were participating in a larger National Institute of Child Health and Human Development-funded study examining school-based prevention and identification of learning disabilities. The schools had been recruited with the consultation of the local school district to represent a diverse sample of students, and participants were selected to overrepresent students at risk for future reading difficulties. Seven of the 11 schools received Title I funding, which would indicate that the majority of their students received free and reduced price lunch (FARL).

Within the schools, we analyzed data from kindergarten students across 34 different classrooms. The original sample included 568 students. Because we were interested in comparisons among students identified as African American and non-African American, we excluded 54 students from the original sample whose parents had identified their race as either "other" or "multiracial" because we could not be sure about their racial background. We also did not include students who had been identified as limited English proficient ($n = 11$). Thus, the final sample consisted of 503 students. Demographic data for the final sample are provided in Table 1. The majority of the students were African American ($n = 327$, 65%). Approximately 12% of the sample was eligible for special education services by the end of the school year. About half of the students (51.5%) were eligible for FARL. FARL status data were not available for 121 of the students, including 35 students within one school. The percentage of students in the sample qualifying for FARL at each of the schools ranged from 0% to 100% ($M = 64.87$, $SD = 31.67$), indicating a wide variety of SES among the schools.

TABLE 1 Demographic Information

Characteristic	<i>M (SD)</i>	<i>n</i>	%
Age	5.15 (0.29)		
Gender			
Male		271	53.9
Female		232	46.1
Race			
American Indian/Alaska Native		2	0.4
Asian		5	1.0
Native Hawaiian or Pacific Islander		1	0.2
Black or African American		327	65
White		168	33.4
Ethnicity			
Hispanic		16	3.2
Non-Hispanic		487	96.8
Free and reduced price lunch			
Eligible		259	51.5
Not eligible		123	24.5
Missing		121	24.1
Eligible for exceptional student education		61	12.2

Procedures and Measures

At the beginning of the school year, each student was given assessments in various early oral language skills. All measures were administered and scored in standardized format by research staff. Each staff member was trained on administering and scoring the individual assessments and, before testing in schools, was required to pass a fidelity check to ensure accurate administration and scoring procedures for each of the tests. Children were assessed individually in a quiet area of their school on the following measures.

WOODCOCK–JOHNSON TEST OF ACHIEVEMENT–3RD EDITION, PICTURE VOCABULARY (WJIII–PV)

The WJIII–PV (Woodcock, McGrew, & Mather, 2001) is a norm-referenced, standardized assessment of expressive vocabulary with an established median reliability of .77 in the age 5 to 19 range (McGrew, Schrank, & Woodcock, 2007). The WJIII–PV is widely used and assesses oral language development and lexical knowledge by having students orally name various pictures of objects. For this subtest, a standard score of 100 is average, and scores falling within 1 *SD* (± 15 points) are considered within the average range.

KAUFMAN BRIEF INTELLIGENCE TEST–SECOND EDITION, VERBAL KNOWLEDGE (KBIT–VK)

The Verbal Knowledge portion of the KBIT contains two kinds of items—Verbal Knowledge and Riddles—both of which assess students' knowledge

of words and their meanings (Kaufman & Kaufman, 2004). Although this test is designed to assess intellectual abilities, for the purpose of the study, the Verbal Knowledge subtest provided a general measure of students' overall receptive and expressive vocabulary. For the Verbal Knowledge portion of the subtest, students are required to listen to a word or phrase and point to the picture that goes with the dictated word or phrase. For the Riddles subtest, students respond to the examiner's verbal prompt, given in riddle format, either by pointing to a picture that answers the examiner's riddle or by verbally responding with a one-word answer. The reported internal reliability coefficient for the Verbal Knowledge scale is .91. For the KBIT-VK subtest, a standard score of 100 is average, and scores falling within 1 *SD* (± 15 points) are considered within the average range.

TEST OF LANGUAGE DEVELOPMENT-PRIMARY, THIRD EDITION (TOLD-P:3)

Two subtests of the TOLD-P:3 (Newcomer & Hammill, 1997) were administered: the Grammatic Completion subtest (TOLD-GC) and the Sentence Imitation subtest (TOLD-SI). This assessment, which was developed for use with children between 4 years and 8 years and 11 months of age, is commonly used among speech-language pathologists to diagnose language disorders. However, for the purpose of this study, the two subtests were used to determine each student's skills in the two areas and to provide measures of syntactic ability and morphosyntactic awareness. For the Grammatic Completion subtest, each child is verbally prompted to supply the missing last word in the sentence that the examiner says. For this subtest, which has a reliability of .90, the student may also listen to a sentence that is read aloud and be asked to determine whether the sentence is grammatically correct. As the subtest title suggests, the Sentence Imitation task requires the student to repeat verbatim the increasingly complex sentences that the examiner says. Reliability for this subtest is .91. For each subtest, Grammatic Completion and Sentence Imitation, a standard score of 10 is average, and standard scores falling between 7 and 13 are considered within the average range.

ANALYSIS

Student-level race and SES were used as dichotomous predictors, and we used FARL status as a proxy for SES. Students who were African American were coded as 1, and students who were not African American were coded as 0. Similarly, students who were in the FARL program were coded as 1, and students who were not in the program were coded as 0. We calculated the percentage of students in the sample at each school who were African American and used this number as the variable to represent school racial background. School SES was calculated as the percentage of individual students in the sample who were in the FARL program. The percentage of

sample students in the school who were African American was highly correlated with the percentage of sample students in the school who were in the FARL program ($r = .925$, $p < .001$); thus, to avoid multicollinearity problems we used only school SES in the models.

To examine the contributions of student race and SES and school-level SES to kindergarten students' oral language abilities, we fit two-level hierarchical linear models (Raudenbush & Bryk, 2002) using HLM 7.0 (Raudenbush, Bryk, Cheong, Congdon, & du Toit, 2011) with students nested within schools. Although students were assessed at the beginning of their kindergarten year, and thus had not attended these schools for more than a few weeks, the nesting within schools served as a marker of neighborhood/community. Separate hierarchical linear models were conducted for each oral language measure, with each model run in three stages. First, hierarchical linear models were built with an unconditional model, with no predictors at the student or school levels, providing a measure of the variance within and between schools for each of the oral language measures. Second, the student-level predictors of race and SES were added to the model, first separately, to examine the absolute effect on oral language measures independent of other variables, then in combination, to examine the relative effect on oral language in the presence of other variables. The interaction of race and SES was also examined. Third, the grand-mean-centered school-level variable of SES was added to the model and the cross-level interaction of student race and school SES was examined. All models were run using full maximum likelihood estimation.

RESULTS

Raw scores for each subtest were converted into standard scores based on each student's chronological age at the time of testing. Table 2 displays the means and standard deviations of the standard scores for each of the oral language measures. Overall, the sample's standard scores were within the average range on the WJIII-PV. On three of the oral language measures, the KBIT-VK, TOLD-GC, and TOLD-SI, standard scores generally fell within the low-average range. Bivariate correlations among the oral language measures are also shown in Table 2. Correlations among the oral language measures were moderate and significant ($r_s = .46-.60$, $p_s < .001$). The two subtests of the TOLD-P:3 had the strongest correlation of the oral language measures included in this study ($r = .60$).

For the unconditional model, the proportion of variance between schools was significant for all measures ($p_s < .001$). Chi-square model comparisons between nested and nonnested models were used to assess model fit. For all oral language measures, the nested model provided a better fit to the data, and intraclass correlations, indicating the amount of variance attributable to schools, ranged from .099 to .213.

TABLE 2 Means, Standard Deviations, and Correlations of Oral Language Measures

Measure	<i>M (SD)</i>	Correlations			
		1	2	3	4
1. WJIII–PV ^a	99.89 (10.10)	—			
2. KBIT–VK ^a	90.58 (14.48)	.55	—		
3. TOLD–GC ^b	7.32 (2.93)	.47	.55	—	
4. TOLD–SI ^b	7.85 (3.15)	.46	.54	.60	—

Note. WJIII–PV = Woodcock–Johnson Test of Achievement–3rd Edition, Picture Vocabulary; KBIT–VK = Kaufman Brief Intelligence Test–Second Edition, Verbal Knowledge; TOLD–GC = Test of Language Development–Grammatical Completion; TOLD–SI = Test of Language Development–Sentence Imitation.

^aValue reported in standard scores with a mean of 100 and a standard deviation of 15.

^bValue reported in standard scores with a mean of 10 and a standard deviation of 3.

All correlations significant at $p < .001$.

Oral Language by Student Race and SES

For each oral language measure, we first measured the absolute effects of identification as African American and student SES. In our analysis, we found that identification as African American was a significant predictor of decreases in scores on all of the measures ($ps < .01$). Student SES, as measured by eligibility for FARL, was also a significant predictor of decreases in scores for all of the oral language measures ($ps < .05$). Next we investigated the relative contribution of each factor and an interaction term in order to determine whether the relationship between student identification as African American and oral language performance might be moderated by student SES. Because race and SES are often highly correlated, we were concerned with multicollinearity and that the impact of examining identification as African American and SES simultaneously as predictors might inflate the standard errors. However, a phi coefficient correlation revealed that student identification as African American and student SES were significantly, but only moderately, correlated ($r = .596$, $p < .001$).

The results of the analysis of student-level factors are shown in Table 3 (Model 1). In the first column for each of the oral language measures, labeled *Model 1*, the intercept coefficients represent the expected score for a non-African American student who is not eligible for FARL. Overall, we found that when we controlled for SES, identification as African American predicted a significant decrease in scores on each of the measures ($ps < .05$). Once individual race was accounted for, low SES was a significant predictor of decreased scores for only one of the oral language measures, the WJIII–PV ($p = .012$), but not for the others. The interaction of race and SES was not significant for any of the oral language outcomes ($ps > .05$).

We compared our findings to the unconditional model in order to assess the amount of variance in oral language measures accounted for by our predictors. With the individual predictors of race and SES in our model,

TABLE 3 Hierarchical Linear Modeling for Student Race and SES and School-Level SES and Oral Language

Model	WJIII-PV		KBIT-VK		TOLD-GC		TOLD-SI	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Fixed effects								
Intercept	105.83*** (1.09)	103.40*** (1.22)	99.05*** (1.81)	97.79*** (1.66)	9.15*** (0.34)	8.57*** (0.34)	9.07*** (1.81)	8.68*** (0.44)
Child variables								
AA	-5.89** (1.97)	-3.62* (1.29)	-5.71* (2.75)	-6.96*** (1.76)	-2.27*** (0.55)	-1.78*** (0.36)	-1.48* (0.61)	-1.17** (0.40)
SES	-4.43* (1.76)	-2.48 (1.36)	-3.23 (2.48)	-3.63 (1.85)	-0.70 (0.50)	-0.24 (0.38)	-0.41 (0.55)	-0.11 (0.41)
AA × SES	1.72 (2.52)		-3.63 (3.49)		0.36 (0.70)		0.30 (0.77)	
School variables								
School SES		-0.09* (0.03)		-0.13* (0.04)		-0.03* (0.01)		-0.03* (0.01)
Child × School								
AA × School		0.06 (0.04)		-0.06 (0.06)		0.004 (0.01)		0.01 (0.01)
SES								
Random effects								
Level 1	87.47	86.79	164.42	161.06	6.69	6.66	7.93	7.94
Level 2	1.47*	0.02	11.25***	0.01	0.32**	0.02	1.33***	0.43***
Model fit								
Deviance	2,796.96	2,789.17	3,035.90	3,015.58	1,820.18	1,809.53	1,894.65	1,886.53
Parameters	6	7	6	7	6	7	6	7

Note. Values in parentheses are corresponding standard errors. Model 1: child-level variables; Model 2: child-level + school-level variables. SES = socioeconomic status (indicated by eligibility for free and reduced price lunch); WJIII-PV = Woodcock-Johnson Test of Achievement-3rd Edition, Picture Vocabulary; KBIT-VK = Kaufman Brief Intelligence Test-Second Edition, Verbal Knowledge; TOLD-GC = Test of Language Development-Grammatic Completion; TOLD-SI = Test of Language Development-Sentence Imitation; AA = African American.
* $p < .05$. ** $p < .01$. *** $p < .001$.

the amount of variance at the school level remained significant for each of the measures. At the individual level, the amount of variance accounted for was relatively similar to that of the unconditional models. By adding these factors to our models, we were able to account for 6% of the total variance at the individual level for the WJIII–PV, 3% for the KBIT–VK, 8% for the TOLD–GC, and 0% for the TOLD–SI.

Oral Language by Student Race and SES and School SES

In order to address the second research question regarding the impact of school SES on individual oral language performance, we added school SES to the previous conditional model while removing the student African American \times SES interaction term, which was not significant in the previous model. We then added a child race by school-level SES (African American \times School SES) interaction term. The second column for each measure in Table 3, labeled *Model 2*, displays the results of the analyses for the four oral language outcome measures. The intercepts represent the expected score for a non-African American student not receiving FARL at a school with an average SES level. When we controlled for other variables, student identification as African American remained significant for all of the measures ($ps < .01$). Individual SES was not significant on any of the oral language measures ($ps > .05$). However, school-level SES, as determined by the percentage of students within a school receiving FARL, was a significant predictor for all of the measures ($ps < .05$). The interaction term African American \times School SES was not significant in any of the models ($ps > .05$), suggesting that aggregate school SES did not moderate the African American–oral language achievement slope.

By adding school-level SES to our model, we were able to account for more than 99% of the school-level variance in our data for three out of four of the measures (the WJIII–PV, KBIT–VK, and TOLD–GC), resulting in non-significant variance at the school level for all measures except for the TOLD–SI. Model 2 accounted for 16% of the total variance in the WJIII–PV, 25% of the total variance in the KBIT–VK, 23% of the total variance in the TOLD–GC, and 15% of the total variance in the TOLD–SI.

DISCUSSION

Research over the past few decades has shown the vital role that oral language plays in the development of literacy skills. Our study was framed by the simple view of reading as we focused on the language component of the simple view and examined oral language abilities of kindergarten students at the beginning of the school year. In this study, we were able to examine the associations of African American race and SES, as determined

by a student's eligibility for FARL, with students' oral language abilities on multiple measures, including expressive and receptive vocabulary, grammar, and sentence imitation.

In our models we found that, separately, both identification as African American and SES were significant predictors of oral language outcomes. However, in analyzing the relative contribution of each factor within the context of the other, we found that identification as African American remained a significant factor for all of the measures and that student SES was significant for only one measure, the WJIII–PV. Because student SES was not a significant predictor of oral language performance on three of the four measures, our findings suggest that many African American students, regardless of SES, demonstrated performance that was significantly lower than that of their non-African American peers, from both low-income homes and higher income homes, on the measures of oral language included in this study. In addition, because the interaction between race and child-level SES was not significant, this finding suggests that at kindergarten entry, many African American students may fall behind their non-African American peers in these aspects of oral language and that these differences may not be attributable to individual income. The findings from the study are generally consistent with previous research regarding the literacy skills of students from minority backgrounds (e.g., Craig et al., 2009; Meece & Kurtz-Costes, 2001). However, our findings suggest further examination into key factors leading to lower achievement scores that go beyond student SES.

School-level SES was a significant predictor of student oral language scores, accounting for virtually all of the school-level variance in three out of four of the measures. As the percentage of students eligible for FARL increased, the predicted scores for students on all of the oral language measures analyzed decreased. This finding suggests that school-wide SES is a better predictor of individual performance than a student's family income level, a relationship that exists regardless of student race. Because the students in our study had not received much exposure to formal schooling, this finding would suggest that a student's neighborhood or community may be a significant predictor of early oral language skills. The lack of significance of the SES interaction terms at both the child level and school level indicates that the association between race and oral language scores cannot be attributed solely to income.

In our study many students, both African American and non-African American, generally scored in the low-average to below-average range on three of the measures of oral language: the KBIT–VK, a measure of receptive and expressive vocabulary; and the TOLD–GC and TOLD–SI, measures of syntactic ability. For the beginning reader, vocabulary is one important language skill in literacy acquisition. Once a student sounds out the letters in a word, he or she must link the “phonological representation to a meaningful word” (Whitehurst & Lonigan, 1998, p. 849), thus relying on lexical

knowledge to interpret the word. For many students, such as the participants in this study, early deficits in receptive vocabulary may transfer into difficulty with word recognition skills. In addition, if the differences observed between the African American students and non-African American students in our study are truly deficits in syntactic skills, then students who scored low on these measures may be at risk for academic difficulties. Research has demonstrated that students with deficits on measures of syntax are at risk for poor literacy acquisition (Scarborough, 1990). When coupled with below-average vocabulary skills, deficits in syntactic ability could put students at further risk for poor reading development and performance. Furthermore, our findings suggest that these deficits may be exacerbated by factors such as a child's environment.

Implications and Future Research

Findings from this study have implications for both practice and future research. In regard to practice, the findings suggest direct implications for measurement and intervention. The students in this study were assessed on multiple measures of oral language, revealing differences that could potentially impact later reading performance. The results of this study suggest that assessing students on a variety of oral language measures, not just vocabulary, may be an important component of early evaluation of student needs. Knowing the patterns of strengths or weaknesses in a wide range of oral language abilities could assist reading interventionists in individualizing instruction.

Furthermore, according to the simple view of reading, providing language-focused instruction and interventions may be just as important as providing code-focused interventions. Identifying students who score significantly below expected levels on one or more of these types of oral language measures and providing additional support or intervention would be especially ideal in the primary grades, given the substantial amount of research that has demonstrated the effects of early intervention (Snow et al., 1998; Torgesen, 1998) and specifically targeted interventions for students at risk for later reading difficulties (e.g., Gersten et al., 2008; Vellutino, Scanlon, Zhang, & Schatschneider, 2008). Moreover, previous research has demonstrated the positive effects of the prevention approach as early as kindergarten for reducing the number of students who experience reading difficulties (e.g., Al Otaiba et al., 2008; Cavanaugh, Kim, Wanzek, & Vaughn, 2004). Thus, in line with the simple view of reading, early intervention for students with oral language deficits may be one area to target for closing the achievement gap. However, in observational studies of early reading instruction, particularly for students at risk for later reading difficulties, researchers have found that in classroom instruction, not only was more time devoted to code-focused instruction as opposed to meaning-focused

instruction including language skills (Kent, Wanzek, & Al Otaiba, 2012), but teachers were more effective in teaching code-focused than meaning-focused reading skills (Al Otaiba et al., 2011).

O'Connor et al. (2010) found positive and significant results when an oral language intervention focusing not only on vocabulary development but also on word analysis, written and spoken language conventions, listening and speaking strategies, and speaking applications was introduced early in the kindergarten year. For students with deficits present at school entry, such as the participants in this study, providing targeted individualized instruction and interventions focusing on these components as early as possible in the kindergarten year may prove beneficial to later literacy performance and help reduce the differences noted in this study. Measuring performance and providing intervention as early as possible is an important component to improving later literacy performance. However, African American children are less likely to be represented in early intervention and early childhood special education programs (Delgado & Scott, 2006; Morgan, Farkas, Hillemeier, & Maczuga, 2012).

Our results also indicate that, regarding oral language, there may be more similarities than differences within racial groups and that race, or perhaps other factors associated with race and/or ethnicity, may be more highly related to oral language achievement than SES alone. Although race itself is certainly not the sole contributing factor to or predictor of oral language abilities, the findings of this study would suggest that the relationship is important and warrants further examination into key factors that go beyond SES. Because African American students were generally lower in oral language skills in comparison to their non-African American classmates, our results also suggest further investigation into the role that AAE plays in the development of early oral language and literacy skills. Recent studies have investigated AAE and other forms of Nonmainstream American English (e.g., Connor & Craig, 2006; Oetting & Newkirk, 2011; Terry, 2006), and their relation to early literacy achievement (e.g., Ortiz et al., 2012; Terry et al., 2010, 2012), noting the complexity of the relationship between dialect use and literacy development. The ability to dialect-shift from Nonmainstream American English to Mainstream American English in various literacy contexts may be a unique predictor of literacy skills, or it may be an oral language skill itself—more specifically, a metalinguistic skill (Connor & Craig, 2006; Terry, 2012).mdash;that contributes to the development of reading skills (Craig et al., 2009). More research in the area is necessary in order to better understand the dynamics of AAE and its seemingly complex relationship with oral language and literacy.

Finally, in our study, although student SES was not significant in most of our models, school-wide SES was a significant predictor on all of the oral language measures, even after we controlled for both race and individual SES. This finding indicates that for studies in which individual differences are

investigated, simultaneously analyzing environmental characteristics and their potential influences on individual performance may be necessary.

Limitations

This research study is not without limitations. The findings of this correlational study represent associations and do not suggest that race or SES *cause* differences in oral language performance. However, in examining multiple constructs of oral language using student racial background (African American and non-African American) and SES, the study provides information on the language skills of students in relation to demographics, adding to the previous literature that focused largely on vocabulary and did not separately analyze race and SES factors. Therefore, the study provides additional information for future research, including intervention research.

By adding school-level SES to our models, we were able to reduce the amount of school-level variance to nonsignificant on almost all our measures. However, even after we accounted for race and SES, significant factors in previous research that contributed to literacy performance (e.g., Hart & Risley, 1995; Snow et al., 1998), the amount of unexplained variance at the child level was still relatively large. Perhaps adding other components of SES (e.g., parent education level, parent occupation) may contribute to decreasing the level of variance unexplained at the individual level. There is a need for further research in order to determine other factors leading to differences among schoolchildren in early oral language skills. In addition, the findings of this study may be limited to the geographical region in which the study took place. Different findings may be established in the northern or western portion of the country. Further research to determine regional effects is also warranted.

Conclusion

African Americans, who make up half of the growing minority population, continue to fall behind their peers in reading proficiency. Early oral language is one area of risk for this population, and the findings in this study suggest that these gaps may exist regardless of individual SES. Further research, including intervention research, is needed to address these complex issues and to provide instructional implications in order to increase academic proficiency in this population of students. Particularly for young African American students, such as the participants in this study, cultural and linguistic differences may further complicate the transition from the home into the classroom culture (RAND Reading Study Group, 2002). These factors, along with low educational expectations and assessment practices—including standardized testing bias—have all been identified as variables that may have a significant impact on educational outcomes for African American children

(Ferguson, 2007; Ogbu & Simons, 1998; Washington, 2001). Given all of these factors, further research needs to be conducted in order to determine instructional factors and ultimately methods in order to more effectively reach not only African American students but all minority students and students from low-income homes and neighborhoods in order to address the achievement gap.

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